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DOS/DBASE/SPANS
SHEFFIELD FARM DATA TRAINING MANUAL

INLAND WATERS DIRECTORATE
ATLANTIC REGION
WATER PLANNING AND MANAGEMENT BRANCH
DARTMOUTH, NOVA SCOTIA

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AQUIFER VULNERABILITY

SHEFFIELD FARM PROJECT

DOS/DBASE/SPANS

SHEFFIELD FARM DATA

TRAINING MANUAL

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The examples used here are based on the operation of the Sheffield Farm Aquifer Vulnerability Study.

As you go through the exercise, consider how you might use the concepts and operations discussed with your own application.

Here are the topics covered in each lesson:

LESSON 1	**FORMAT FLOPPY DISK, CHANGE DIRECTORY, DIRECTORY LIST OF FILES MAKE SUBDIRECTORY, COPY FILES INTO SUBDIRECTORY, ERASE FILES ON FLOPPY DISK, COPY FILES INTO FLOPPY DISK, REMOVE SUBDIRECTORY CREATING DATABASE FILE, ADDING RECORDS TO DATABASE FILE, RETRIEVE/DISPLAY/PRINT DATABASE FILE, COPYING DATABASE FILES QUITING DBASE**
LESSON 2	**SELECTING A DATABASE FILE, BROWSE, ADD RECORDS USING BROWSE DELETING RECORDS**
LESSON 3	**LOCATING RECORDS INDIVIDUALLY, RETRIEVING RECORDS IN GROUPS, COPYING SELECTED FIELDS, LIST**
LESSON 4	**COPYING REPETITIOUS FIELD DATA, COPYING A DATABASE FILE TO A FLAT ASCII FILE**
LESSON 5	**SETTING UP A UNIVERSE FOR SHEFFIELD FARM, EXPORTING AND IMPORTING GEOGRAPHICAL DATA, BUILDING GEOGRAPHIC ENTITIES**
LESSON 6	**DEVELOPING AND MAINTAINING A UNIVERSE LIBRARY, DISPLAYING AND QUERYING DATA, TRANSFORMING POINT DATA**

This part of the manual is a hands-on tutorial.
That means you'll benefit most by performing the exercises on your computer as you go along.
All **EXERCISES** are at the end of the manual.
Don't rush through the material.
You'll remember more concepts and techniques in the long run if you take a slow and steady approach from the start.
Take breaks when you need them.
Avoid following the **DBASE III PLUS** steps by rote - **think about what you're doing!**

CHAPTER 1

LESSON 1

Introduction to PC Basics

The first thing you will need to knov about computers is what a computer is. A computer is a device used to store, manipulate, and retrieve information. All of the information in the computer is stored and manipulated in binary electronic form.

Magnetic media, such as hard disks and floppy disks are used to store computer data.

Hard disks are built into the computer while **floppy disks** are exterior.

Basic Computer Techniques

Turning on a computer is called "booting up" the computer.

When you boot a computer, you should **make sure that there is not a disk in the floppy drive (Drive A) with the door latch down.**

The Olivetti Personal Computer M380/C has the **power button in the front lower right hand corner.**

PUSH BUTTON

The operating system is stored on the hard disk, and will be accessed immediately, if there isn't a floppy disk in the computer.

C: will appear on the screen.

You can tell that the operating system is working, because booting the computer will leave you at the DOS (Disk Operating System) prompt **C:**.

The first letter, followed by a colon, tells you what drive you are in, i.e. **C:**

Hard disks are generally drive **"C:"**, but are also often labelled drive **"D:"**. The **floppy disk** drives are generally drives **"A:"** and **"B:"**.

Following the disk specification, there will be a backward facing slash and greater than sign, **C:\>**.

FORMAT FLOPPY DISK
Before data can be stored on the blank floppy disk, it has to be formatted.

Put floppy disk **(LABEL SIDE UP)** in slot in computer.

Turn down latch.

Type **FORMAT A:** Hold keys **SHIFT** and **;** together to produce **: (colon)**

A message will appear.

Press key marked **ENTER**.

A red light on Drive A will appear to indicate disk being formatted.

A message on the screen will indicate when format is complete.
1213952 bytes total disk space.
1213952 bytes available on disk.

If you have more than one floppy to format type **Y** otherwise type **N**.

Press ENTER.

The DOS prompt **C:\>** will appear on the screen.

If you attempt to format a floppy disk a second time, all data on that disk will be erased.

NOTE: NEVER FORMAT YOUR FLOPPY DISK A SECOND TIME!!!!

All **DOS** system files are contained in the root directory C:.

The root directory is the first level in the directory structure.

For example, the SPANS4 program is contained in the subdirectory **C:\SPANS4>**.

The dBASE III Plus program is contained in the subdirectory **C:\DBASE>**.

The Sheffield Farm Database Files are contained in the **C:\SPANS4\SHEFIELD>** subdirectory.

DIRECTORY

Type **DIR**
This command lists all files in the **C:** root directory.
Column one is a list of the files and subdirectories.
Column two is a list of extension names.
Column three space (BYTES) taken up by the file.
Column four date file created.
Column five time file created.

Press ENTER

Type **DIR/W**
All files are listed side by side in a series of rows and columns.

Press ENTER

Type **CD SPANS4.** (CD means Change Directory).

Type **DIR/W**
All files in the **C:\SPANS4** subdirectory are listed.

Press ENTER

Type **CD SHEFIELD**

Press ENTER

C:\SPANS4\SHEFIELD> appears on the screen

Type **DIR/W**
All files in the **C:\SPANS4\SHEFIELD** subdirectory are listed.

Press ENTER

Type **DIR *.DBF** Hold keys **SHIFT** and **8** together to produce ***(asterisk)**
***(asterisk)** indicates any character or sequence of characters
.DBF a sequence of characters following the **. (period)** represents a file extension
.DBF is the extension assigned to all dBASE database files.
.PNT is the extension assigned to all SPANS point files.
.MAP is the extension assigned to all SPANS map files.

CHANGE DIRECTORY

Type **CD\SPANS4** press **ENTER**
This command returns you to the C:\SPANS4 directory

Type **CD SHEFIELD** press **ENTER**
Type **CD** press **ENTER**
This command returns you to the C:\ directory

Type **CD SPANS4\SHEFIELD** press **ENTER**
Type **CD** press **ENTER**
This command returns you to the C:\ directory

Type **CD SPANS4** press **ENTER**
This command takes you to the C:\SPANS4 directory

Type **CD SHEFIELD** press **ENTER**
This command takes you to the C:\SPANS4\SHEFIELD directory

Type **CD** press **ENTER**
This command returns you to the C:\ directory

Type **CD SHEFIELD** press **ENTER**
NOTE: SHEFIELD directory was not created at the C:\ directory.
SHEFIELD directory was created in the C:\SPANS4 directory.

Type **CD SPANS4** press **ENTER**
This command takes you to the C:\SPANS4 directory

Type **CD SHEFIELD** press **ENTER**
This command takes you to the C:\SPANS4\SHEFIELD directory

Type **A:** press **ENTER**
This command takes you to the A: drive

Type **C:** press **ENTER**
This command returns you to the directory you were in prior to going to the A: drive (ie.C:\SPANS4\SHEFIELD directory)

Type **CD\SPANS4** press **ENTER**
This command returns you to the C:\SPANS4 directory

Type **A:** press **ENTER**
Type **C:** press **ENTER**
This command returns you to the directory you were in prior to going to the A: drive (ie.C:\SPANS4 directory)

Type **CD SHEFIELD** press **ENTER**

DIRECTORY LIST OF FILES

Type **DIR** press **ENTER**
Type **DIR/W** press **ENTER**
Type **DIR/P** press **ENTER**
Hold keys **CTRL/C** together to stop list of files

CREATING SUBDIRECTORY

In the C:\SPANS4\SHEFIELD subdirectory you will create a subdirectory of your name.
1. Enter the C:SPANS4\SHEFIELD subdirectory

2. Type **MD JOHN**
MD MEANS MAKE DIRECTORY

3. **Press ENTER**

4. Type **CD JOHN**

5. **Press ENTER**

Type **CD** press **ENTER**
This command returns you to the C:\ directory

Type **CD SPANS4** press **ENTER**
This command takes you to the C:\SPANS4 directory

Type **CD SHEFIELD** press **ENTER**
This command takes you to the C:\SPANS4\SHEFIELD directory

Type **CD JOHN**
This command takes you to the C:\SPANS4\SHEFIELD\JOHN directory

Type **A:** press **ENTER**
This command takes you to the A: drive

Type **C:** press **ENTER**
This command returns you to the directory you were in prior to going to the A: drive (ie.C:\SPANS4\SHEFIELD\JOHN directory)

Type **CD** press **ENTER**
This command returns you to the C:\ directory

Type **CD JOHN** press **ENTER**
NOTE: JOHN directory was not created at the C:\ directory.
JOHN directory was created in the C:\SPANS4\SHEFIELD directory.

Type **CD SPANS4** press **ENTER**
This command takes you to the C:\SPANS4 directory

Type **CD JOHN** press **ENTER**
NOTE: JOHN directory was not created at the C:\SPANS4 directory.
JOHN directory was created in the C:\SPANS4\SHEFIELD directory.

Type **CD SHEFIELD** press **ENTER**
This command takes you to the C:\SPANS4\SHEFIELD directory

Type **CD JOHN** press **ENTER**
This command takes you to the C:\SPANS4\SHEFIELD\JOHN directory

Type **A:** press **ENTER**
Type **C:** press **ENTER**
This command returns you to the directory you were in prior to going to the A: drive (ie.C:\SPANS4\SHEFIELD\JOHN directory)

Type **CD** press **ENTER**
This command returns you to the C:\ directory

COPY FILES IN DOS

COPY FROM SUBDIRECTORY SPANS4\SHEFIELD ALL DATABASE FILES (*.DBF) INTO SUBDIRECTORY SPANS4\SHEFIELD\JOHN
From the files on the subdirectory C:\SPANS4\SHEFIELD you will transfer the database files (*.dbf) to your subdirectory C:\SPANS4\SHEFIELD\JOHN.

1. Enter your subdirectory
Type **CD\SPANS4\SHEFIELD\JOHN**

2. **Press ENTER**

3. Type **COPY C:\SPANS4\SHEFIELD*.DBF C:\SPANS4\SHEFIELD\JOHN**
COPY FROM C:\SPANS4\SHEFIELD SUBDIRECTORY ALL FILES WITH THE EXTENSION DBF INTO C:\SPANS4\SHEFIELD\JOHN SUBDIRECTORY

5. **Press ENTER**

6. Type **DIR/W**

7. Because we are already in the **C:\SPANS4\SHEFIELD\JOHN** subdirectory, it is not necessary to type this.

8. Type **COPY C:\SPANS4\SHEFIELD*.DBF**
COPY FROM C:\SPANS4\SHEFIELD SUBDIRECTORY ALL FILES WITH THE EXTENSION DBF INTO C:\SPANS4\SHEFIELD\JOHN SUBDIRECTORY

9. **Press ENTER**

10. Type **DIR/W**

COPY FROM SUBDIRECTORY SPANS4\SHEFIELD ALL DATABASE FILES (*.DBF) INTO SUBDIRECTORY SPANS4\SHEFIELD\JOHN
From the files on the subdirectory C:\SPANS4\SHEFIELD you will transfer the database files (*.dbf) to your subdirectory C:\SPANS4\SHEFIELD\JOHN.

1. Enter subdirectory C:\SPANS4\SHEFIELD
Type **CD\SPANS4\SHEFIELD**

2. **Press ENTER**

3. Type **COPY C:\SPANS4\SHEFIELD*.DBF C:\SPANS4\SHEFIELD\JOHN**
COPY FROM C:\SPANS4\SHEFIELD SUBDIRECTORY ALL FILES WITH THE EXTENSION DBF INTO C:\SPANS4\SHEFIELD\JOHN SUBDIRECTORY

5. **Press ENTER**

6. Type **DIR/W**

7. Because we are already in the **C:\SPANS4\SHEFIELD** subdirectory, it is not necessary to type this.

8. Type **COPY *.DBF C:\SPANS4\SHEFIELD\JOHN**
COPY FROM C:\SPANS4\SHEFIELD SUBDIRECTORY ALL FILES WITH THE EXTENSION DBF

INTO C:\SPANS4\SHEFIELD\JOHN SUBDIRECTORY

9. Press ENTER

10. Type DIR/W

COPY FROM SUBDIRECTORY SPANS4\SHEFIELD\JOHN ALL DATABASE FILES (*.DBF) INTO A: DRIVE
From the files on the subdirectory C:\SPANS4\SHEFIELD\JOHN you will transfer the database files (*.dbf) onto the floppy disk in the A: drive.

1. Enter your subdirectory **C:\Spans4\shefield\john**

2. Insert floppy disk into A: drive.

3. Type **COPY C:\SPANS4\SHEFIELD\JOHN*.DBF A:**
COPY from the C:\SPANS4\SHEFIELD\JOHN subdirectory all files (*) with the character extension **DBF** into the **A: drive**

4. Type **CD A:**

5. Type **DIR/W**
All files on the floppy disk in the A: drive are listed.
Bottom line of the file list displays the number of files on the floppy disk and number of bytes (space left) on the floppy disk.

6. Type C: press **ENTER**

7. Because we are already in the **C:\SPANS4\SHEFIELD\JOHN** subdirectory, it is not necessary to type this.

8. Type **COPY *.DBF A:** press **ENTER**
COPY from the C:\SPANS4\SHEFIELD\JOHN subdirectory all files (*) with the character extension **DBF** into the **A: drive**

9. Type **DIR/W**

COPY ALL FILES FROM A: DRIVE INTO SUBDIRECTORY
From the files on your floppy disk you will transfer these files to your subdirectory.
1. Enter your subdirectory C:\spans4\shefield\JOHN

2. Insert floppy into disk drive.

3. Type **COPY A:*.* C:\SPANS4\SHEFIELD\JOHN**
COPY FROM A DRIVE ALL FILES INTO C:\SPANS4\SHEFIELD\JOHN

4. **Press ENTER**

5. Type DIR/W

6. Because we are already in the **C:\SPANS4\SHEFIELD\JOHN** subdirectory, it is not necessary to type this.

8. Type **COPY A:*.DBF** press **ENTER**
COPY from the **A: drive** all files **(*)** with the character extension **DBF** into the C:\SPANS4\SHEFIELD\JOHN subdirectory

9. Type **DIR/W**

From the files on your floppy disk you will transfer these files to your subdirectory.
1. Enter your A: drive

2. Insert floppy into disk drive.

3. Type **COPY A:*.* C:\SPANS4\SHEFIELD\JOHN**
COPY FROM A DRIVE ALL FILES INTO C:\SPANS4\SHEFIELD\JOHN

4. **Press ENTER**

5. Type DIR/W

6. Because we are already in the A: drive, it is not necessary to type this.

8. Type **COPY *.DBF C:\SPANS4\SHEFIELD\JOHN** press **ENTER**
COPY from the **A: drive** all files **(*)** with the character extension **DBF** into the C:\SPANS4\SHEFIELD\JOHN subdirectory

9. Type **DIR/W**

ERASE FILES IN DOS AND REMOVE SUBDIRECTORIES

Erase files in the A drive (floppy disk).
1. Type **ERASE A:*.***

2. **Press ENTER**

3. Type **CD A:**

4. **Press ENTER**

5. Type **DIR/W**

All files in the A drive (floppy disk) will be erased.

NOTE: NEVER DO ERASE C:*.*. ALL FILES IN THE DISK OPERATING SYSTEM WILL BE ERASED.

Type **CD** press **ENTER**
Type **CD SPANS4\SHEFIELD** press **ENTER**
Type **A:** press **ENTER**
Type **C:** press **ENTER**
Type **CD\SPANS4** press **ENTER**
Type **A:** press **ENTER**
Type **C:** press **ENTER**
Type **CD SHEFIELD** press **ENTER**
Type **A:** press **ENTER**
Type **C:** press **ENTER**
Type **CD JOHN** press **ENTER**
Type **A:** press **ENTER**
Type **C:** press **ENTER**

ERASE ALL FILES ON FLOPPY DISK
Type **ERASE A:*.*** press **ENTER**

REMOVE SUBDIRECTORY
1. Type **ERASE *.*** press **ENTER**
2. Type **CD\SPANS4\SHEFIELD** press **ENTER**
3. Type **RD JOHN** press **ENTER**

CHAPTER 2 - DBASE III PLUS TUTORIAL

DBASE COMMANDS

Type **DBASE** (This takes us to the dBASE program and files in SPANS4\SHEFIELD subdirectory)

A site license agreement is displayed.

Press ENTER

1. The top line of your screen is the **menu bar** containing menu selections.

   The **Set Up Menu** is currently open.

   Its options appear in a **Pull Down Menu**.

2. Press -> key once.

   Now the **Create Menu** opens revealing its pull down menu.

3. Use the -> <- keys to move back and forth across the menu bar, opening menus as you go.

4. Stop at the **Set up Menu** and use the ↓ ↑ to move around the Menu.

CREATING A DATABASE FILE

1. Select the **Create** Menu

2. Select **Database file.**

3. **Press ENTER**

4. Press **F1 (help)**
Create database file help information appears

5. Press any key to exit.

6. Select drive to store file **A:**

7. **Press ENTER**

8. **Enter the name of the file:**

9. Type **PIEZDATA**
dBASE III PLUS provides the file extension **.DBF** automatically

10. **Press ENTER**
Displayed is a blank table for creating the file structure.
dBASE will prompt for a **FIELD NAME, TYPE, WIDTH, DECIMAL WIDTH**
11. Under FIELD NAME type **PIEZOMETER** Press **ENTER**

12. Under TYPE type **C** Press **ENTER**

13. Under WIDTH type **10** Press **ENTER**

14. Type in the following press ENTER after each entry:

FIELD NAME	TYPE	WIDTH	DEC
LATITUDE	NUMERIC	10	6
LONGITUDE	NUMERIC	10	6
TYPE	CHARACTER	3	
FIELD	CHARACTER	3	

FIELD NAME - 10 characters maximum. Can use letters and numbers as a combination of both however, the name **MUST begin with a letter**
TYPE - Character, Numeric, Date, Logical, Memo.

Enter information for each item; then press ENTER.
The **HELP** menu at the top of the screen shows the keys you may use to insert or change record data.

SAVING DATABASE FILE STRUCTURE

1. Press keys **CTRL** and **END** together to save data.
dBASE prompts: **Press ENTER to confirm. Any other key to resume.**

2. Press **ENTER**
dBASE asks: **Input data records now? Y/N**

3. Type **Y**

ADDING RECORDS TO DATABASE FILE

Displayed are the field names entered.
Next to each field name are the blank spaces corresponding to the width assigned to that field.
Enter information for each item; then press **ENTER**.
NOTE: UNLIKE FIELD NAME ENTRIES WHICH ALWAYS APPEAR IN UPPER CASE, ENTRIES FOR RECORDS APPEAR EXACTLY AS THEY ARE TYPED - IN UPPER CASE, lower case, OR A COMBINATION OF THE TWO.
The **HELP** menu at the top of the screen shows the keys you may use to insert or change record data.

1. Type information provided in attached **EXERCISE** (page 77) one row at a time.

2. Once all information for the first row has been entered press **PgDn**
   A blank record 2 appears.

3. Press **PgUp** and **PgDn** to move through the records.

4. Press **Ctrl** and **End** keys together to save last record and exit adding records.

RETRIEVE/DISPLAY/PRINT DATABASE FILE

1. Open **Retrieve** menu

2. Select **List**

3. **Press ENTER**
A submenu of the fields in Piezdata.dbf appears in a box on left side of screen.

Notice highlighted bar at bottom of screen.
This is called the status bar.
Right now it tells you:
That you are using the Assistant
The drive being used (A:)
The database file being used (Piezdata)
The number of records in the file ( )and the first record number (1)

4. Select **Construct a field list**

5. **Press ENTER**

6. Select **Piezometer, latitude, and longitude**
(See your selection on the action line above the status bar.)

7. Press Left or right arrow key to exit submenu.

8. Select **Execute the command.**

9. **Press ENTER**

10. dBASE asks: **Direct the output to the printer? Y/N**

11. Type N and **Press ENTER.**
The records are displayed on the screen.

12. Repeat procedure 1 thru 8.

13. Type **Y** and press **ENTER.**
The records are sent to the printer.

COPYING FILES

1. Select **Organize Menu**
2. Select **Copy.**
3. **Press ENTER**
4. Select **Drive A:**
5. **Press ENTER**
6. dBASE prompts: **Enter the name of the file:**
7. Type **Piezdbak** to name backup file.
8. **Press ENTER.**
9. Press any key to return to the Assistant.

QUITING DBASE III PLUS

1. Select **Set up menu.**
2. Select **Quit dBASE III PLUS**
3. **Press ENTER**
4. Type **CD**
5. **Press ENTER**

You are back at the **C:\ drive main directory.**

LESSON 2

SUMMARY OF LESSON 1

DOS COMMANDS

CHANGE DIRECTORY
Type CD SPANS4 press ENTER
Type CD SHEFIELD press ENTER
Type CD\ press ENTER
Type CD SPANS4\SHEFIELD press ENTER
Type A: press ENTER
Type C: press ENTER
Type CD\SPANS4 press ENTER
Type A: press ENTER
Type C: press ENTER
Type CD SHEFIELD press ENTER

DIRECTORY LIST OF FILES
Type DIR press ENTER
Type DIR/W press ENTER
Type DIR/P press ENTER
Hold keys CTRL/C together to stop list of files

MAKE SUBDIRECTORY
Type MD JOHN press ENTER
Type CD JOHN press ENTER
Type CD SPANS4 press ENTER
Type CD SHEFIELD press ENTER
Type CD\ press ENTER
Type CD SPANS4\SHEFIELD press ENTER
Type A: press ENTER
Type C: press ENTER
Type CD\SPANS4 press ENTER
Type A: press ENTER
Type C: press ENTER
Type CD SHEFIELD press ENTER
Type A: press ENTER
Type C: press ENTER
Type CD JOHN press ENTER
Type A: press ENTER
Type C: press ENTER

COPY FROM SUBDIRECTORY SPANS4\SHEFIELD ALL DATABASE FILES (*.DBF) INTO SUBDIRECTORY SPANS4\SHEFIELD\JOHN
Type COPY C:\SPANS4\SHEFIELD*.DBF C:\SPANS4\SHEFIELD\JOHN

COPY ALL FILES FROM SUBDIRECTORY INTO FLOPPY DISK
Type A: press ENTER
Type COPY C:\SPANS4\SHEFIELD\JOHN*.* A: press ENTER
Type COPY C:\SPANS4\SHEFIELD\JOHN*.* press ENTER
Type C: press ENTER
Type COPY C:\SPANS4\SHEFIELD\JOHN*.* A: press ENTER
TYPE COPY *.* A:

COPY ALL FILES FROM A: DRIVE INTO SUBDIRECTORY
Type **COPY A:*.* C:\SPANS4\SHEFIELD\JOHN** press **ENTER**
Type **COPY A:*.*** press **ENTER**
Type **A:** press **ENTER**
Type **COPY A:*.* C:\SPANS4\SHEFIELD\JOHN** press **ENTER**
Type **COPY *.* C:\SPANS4\SHEFIELD\JOHN** press **ENTER**

ERASE ALL FILES ON FLOPPY DISK
Type **ERASE A:*.*** press **ENTER**

COPY ALL FILES FROM SUBDIRECTORY INTO FLOPPY DISK
Type **A:** press **ENTER**
Type **COPY C:\SPANS4\SHEFIELD\JOHN*.* A:** press **ENTER**
Type **COPY C:\SPANS4\SHEFIELD\JOHN*.*** press **ENTER**
Type **C:** press **ENTER**
Type **COPY C:\SPANS4\SHEFIELD\JOHN*.* A:** press **ENTER**
TYPE **COPY *.* A:**

REMOVE SUBDIRECTORY
1. Type **ERASE *.*** press **ENTER**
2. Type **CD\SPANS4\SHEFIELD** press **ENTER**
3. Type **RD JOHN** press **ENTER**

DBASE COMMANDS

CREATING DATABASE FILE
1. Select **CREATE** Menu.
2. Select **DATABASE FILE** press **ENTER**
3. Select **A:** Drive press **ENTER**
4. Type the filename press **ENTER**
5. Save file hold down **CTRL/END** keys.

ADDING RECORDS TO DATABASE FILE
1. Select **UPDATE** Menu.
2. Select **APPEND** Menu press **ENTER**
3. Enter data, pressing **ENTER** after each entry.
4. Use editing and cursor keys displayed at top of screen.
5. Press **PGDN** (advance one record).
6. Press **PGUP** (review previous record).
7. Save file hold down **CTRL/END** keys.

RETRIEVE/DISPLAY/PRINT DATABASE FILE
1. Select **RETRIEVE** Menu.
2. Select **LIST** press **ENTER**
3. Select **CONSTRUCT A FIELD LIST.** press **ENTER**
4. Select fields to be retrieved.
5. Press **RIGHT OR LEFT KEY** to return to submenu.
6. Select **EXECUTE THE COMMAND.** press **ENTER**
7. Type **Y** to print.

COPYING DATABASE FILES
1. Select **ORGANIZE** Menu.
2. Select **COPY.** press **ENTER**
3. Select DRIVE. press **ENTER**
4. Type FILENAME. press **ENTER**
5. Select **EXECUTE THE COMMAND.**
6. Press any key to continue.

QUITING DBASE
1. Select **SET UP** Menu.
2. Select **QUIT DBASE III PLUS.** press **ENTER**

Type **DBASE** (This takes us to the dBASE program and files in SPANS4\SHEFIELD SUBDIRECTORY)

SELECT DATABASE FILE

1. Open the **Set Up Menu**, and note the highlight on the **Database file** option.

2. Press **ENTER** to select the **Database file** option.

3. A drive selection **submenu** appears.

4. Press down arrow key to Highlight drive **A:**.

5. **Press ENTER**

6. Select **Piezdata.dbf**

7. **Press ENTER**

8. dBASE III PLUS asks: **Is the file indexed? Y/N**

9. Type **N (No)**.

The set up menu returns.
1. Open **Update menu**

2. Select **Browse**
The Piezdata database file appears.
The current record is highlighted.
The blinking cursor indicates the current field.

3. Notice the information on the **Status bar**
That you are using the Browse option
The drive being used (A:)
The database file being used (Piezdata)
The total number of records in the file ( )**and the** current **record number** (1)

4. Notice the boxed menu at the top of the screen.

5. Notice the location of the cursor, press **End** key.
The cursor moves one field to the right.

6. Press **Home** key.
Cursor moves one field to the left.

7. Press **Ctrl** and **right arrow** keys together a couple of times.
Fields scroll into view from the right.

8. Press **Ctrl** and **left arrow** keys together.
Fields scroll to the left.

9. Press **F10.**
The browse menu bar appears at the top of the screen.

Try some of the options.

10. Press **Ctrl/End** keys together to exit Browse.

ADDING RECORDS-APPEND

1. Open the **Update Menu.**

2. Select **Append.**

3. **Press ENTER**
A blank record appears with the cursor in the first field.

4. Add data to the corresponding field from the list provided.

5. Press **ENTER.**

6. Repeat steps three and four for each field.

7. Press **Ctrl/End** keys together to exit Append.

DELETING RECORDS

1. Select the **Update Menu.**

2. Select **Edit.**

3. **Press ENTER**

4. Press **Ctrl/U** keys together to mark the record for deletion.
Look at the status bar. **Del** means this record is marked for deletion.

5. Press **Ctrl/U** keys together again.
Look at status bar. **Del** disappears. This record is no longer marked for deletion.

6. Press **Ctrl/U** keys together to **mark** the record for deletion.

7. Press **Ctrl/End** keys together to save deleted records and exit Edit.

8. Select the **Update Menu.**

9. Select **Pack.**

10. **Press ENTER**
The **marked** record is nov deleted.
Once Pack is used the record can never be retrieved.
The message **X records copied** indicates the records in the file.

9. Press any key to proceed.

10. Repeat the above procedure 1 to 9 but mark more than one record for deletion.

ADDING FIELDS TO DATABASE FILE

1. Select **MODIFY** Menu.

2. Select **DATABASE FILE**. press **ENTER**

3. Type Field Name, Type, Width. press **ENTER** after each entry

TOCELEVASL	NUMERIC	10	2
CASINGAGS	NUMERIC	10	2
ELEVTNASL	NUMERIC	10	2
PIEZDPTH	NUMERIC	10	2

4. Press **Ctrl/End** keys together to exit **MODIFY** and save changes.

TOCELEVASL - Top Of Casing ELEVation Above Sea Level

CASINGAGS - CASING Above Ground Surface

PIEZDPTH - PIEZometer DePTH

ADDING RECORDS TO MODIFIED DATABASE FILE

Follow procedure for ADDING RECORDS on page 24.
Displayed are the field names entered.
Next to each field name are the blank spaces corresponding to the width assigned to that field.
Enter information for each item; then press **ENTER**.
NOTE: UNLIKE FIELD NAME ENTRIES WHICH ALWAYS APPEAR IN UPPER CASE, ENTRIES FOR RECORDS APPEAR EXACTLY AS THEY ARE TYPED - IN UPPER CASE, lower case, OR A COMBINATION OF THE TWO.
The **HELP** menu at the top of the screen shows the keys you may use to insert or change record data.

1. Type information provided in **EXERCISE 2** (page 78) one row at a time.

2. Once all information for the first row has been entered **press PgDn**.
   A blank record 2 appears.

3. **Press PgUp and PgDn to move through the records.**

4. Press **Ctrl** and **End** keys together to save last record and exit adding records.

LESSON 3

SUMMARY OF LESSON 1 AND 2

DOS COMMANDS

CHANGE DIRECTORY
Type CD SPANS4 press ENTER
Type CD SHEFIELD press ENTER
Type CD\ press ENTER
Type CD SPANS4\SHEFIELD press ENTER
Type A: press ENTER
Type C: press ENTER
Type CD\SPANS4 press ENTER
Type A: press ENTER
Type C: press ENTER
Type CD SHEFIELD press ENTER

DIRECTORY LIST OF FILES
Type DIR press ENTER
Type DIR/W press ENTER
Type DIR/P press ENTER
Hold keys CTRL/C together to stop list of files

MAKE SUBDIRECTORY
Type MD JOHN press ENTER
Type CD JOHN press ENTER
Type CD SPANS4 press ENTER
Type CD SHEFIELD press ENTER
Type CD\ press ENTER
Type CD SPANS4\SHEFIELD press ENTER
Type A: press ENTER
Type C: press ENTER
Type CD\SPANS4 press ENTER
Type A: press ENTER
Type C: press ENTER
Type CD SHEFIELD press ENTER
Type A: press ENTER
Type C: press ENTER
Type CD JOHN press ENTER
Type A: press ENTER
Type C: press ENTER

COPY FROM SUBDIRECTORY SPANS4\SHEFIELD ALL DATABASE FILES (*.DBF) INTO SUBDIRECTORY SPANS4\SHEFIELD\JOHN
Type COPY C:\SPANS4\SHEFIELD*.DBF C:\SPANS4\SHEFIELD\JOHN

COPY ALL FILES FROM SUBDIRECTORY INTO FLOPPY DISK
Type A: press ENTER
Type COPY C:\SPANS4\SHEFIELD\JOHN*.* A: press ENTER
Type COPY C:\SPANS4\SHEFIELD\JOHN*.* press ENTER
Type C: press ENTER
Type COPY C:\SPANS4\SHEFIELD\JOHN*.* A: press ENTER
TYPE COPY *.* A:

COPY ALL FILES FROM A: DRIVE INTO SUBDIRECTORY
Type **COPY A:*.* C:\SPANS4\SHEFIELD\JOHN** press **ENTER**
Type **COPY A:*.*** press **ENTER**
Type **A:** press **ENTER**
Type **COPY A:*.* C:\SPANS4\SHEFIELD\JOHN** press **ENTER**
Type **COPY *.* C:\SPANS4\SHEFIELD\JOHN** press **ENTER**

ERASE ALL FILES ON FLOPPY DISK
Type **ERASE A:*.*** press **ENTER**

COPY ALL FILES FROM SUBDIRECTORY INTO FLOPPY DISK
Type **A:** press **ENTER**
Type **COPY C:\SPANS4\SHEFIELD\JOHN*.* A:** press **ENTER**
Type **COPY C:\SPANS4\SHEFIELD\JOHN*.*** press **ENTER**
Type **C:** press **ENTER**
Type **COPY C:\SPANS4\SHEFIELD\JOHN*.* A:** press **ENTER**
TYPE **COPY *.* A:**

REMOVE SUBDIRECTORY
1. Type **ERASE *.*** press **ENTER**
2. Type **CD\SPANS4\SHEFIELD** press **ENTER**
3. Type **RD JOHN** press **ENTER**

DBASE COMMANDS
CREATING DATABASE FILE
ADDING RECORDS TO DATABASE FILE
RETRIEVE/DISPLAY/PRINT DATABASE FILE
COPYING DATABASE FILES
QUITING DBASE

SELECTING A DATABASE FILE
1. Select **SET UP** Menu.
2. Select **DATABASE FILE**. press **ENTER**
3. Select the drive where the file is located. press **ENTER**
4. Select file. press **ENTER**

BROWSE
1. Follow steps for selecting a database file.
2. Select **UPDATE** Menu.
3. Select **BROWSE**. press **ENTER**
4. **F1 HELP** displays editing menu.
5. **F10** displays **BROWSE MENU BAR**

ADD RECORDS USING BROWSE
1. Use **PGDN** OR **F10**.
2. Select **BOTTOM**. press **ENTER**
3. Press **DOWN ARROW KEY**.
4. Type **Y**(yes). press **ENTER**
5. Enter new record.
6. Press **CTRL/END KEYS** to save and exit.

ESC exits without saving changes.

DELETING RECORDS
1. Mark records for deletion.
a. Select **UPDATE** Menu.
b. Select **EDIT**. press **ENTER**
c. Move cursor to record to be deleted.
d. Press **CTRL/U KEYS**
e. Press **CTRL/END KEYS** to exit **EDIT**

OR

a. Select **DELETE** Menu.
b. Select **BUILD A SEARCH CONDITION**.
c. Select fields from field submenu to be deleted.
d. Select an operator from the operator submenu.
e. Enter search value.
f. Select **NO MORE CONDITIONS**.
g. Use **LEFT OR RIGHT ARROW KEY** to exit submenu.
h. Select **EXECUTE THE COMMAND**. press **ENTER**

2. Remove the marked records.
a. Select **UPDATE** Menu.
b. Select **BROWSE** to check records marked for deletion.
c. Select **PACK**. press **ENTER**

COPY DATABASE FILES FROM SPANS4\SHEFIELD SUBDIRECTORY TO FLOPPY DISK
1. Type **CD\SPANS4\SHEFIELD** press **ENTER**
2. Type **COPY *.DBF A:** press **ENTER**

LOCATING RECORDS INDIVIDUALLY

1. Select **POSITION** Menu.

2. Select **LOCATE**. press **ENTER**
A scope/search menu appears.

3. Select **BUILD A SEARCH CONDITION**. press **ENTER**
A menu of database files appears.

4. Select **PIEZOMETER**. press **ENTER**

5. Press **LEFT OR RIGHT ARROW KEY** to exit database file menu.
A menu of relational operators appears.

6. Select = **EQUAL TO**. press **ENTER**

7. DBASE asks **ENTER A CHARACTER STRING**

8. Type **"D1"**. press **ENTER** Press keys **SHIFT/'** together to produce **" (quotations)**

9. Select **NO MORE CONDITIONS**.
The action line displays **COMMAND: LOCATE FOR PIEZOMETER = "D1"**

10. Press **RIGHT OR LEFT KEY** to return to submenu.

11. Select **EXECUTE THE COMMAND**.

12. Press any key to continue.

13. Select **UPDATE** Menu.

14. Select **EDIT**. press **ENTER**
Located record D1 is displayed.

15. Press **ESC OR CTRL/END** keys together to exit.

16. Repeat the above steps for **TYPE = O**.

RETRIEVING RECORDS IN GROUPS

1. Select **RETRIEVE** Menu.

2. Select **LIST** Press **ENTER**

3. Select **CONSTRUCT A FIELD LIST.** press **ENTER**
A menu of database files appears.

4. Select **PIEZOMETER, TOCSWLBGS, DATE.**

5. Press **LEFT OR RIGHT ARROW KEY** to exit database file menu.
A menu of relational operators appears.

6. Select **BUILD A SEARCH CONDITION.** press **ENTER**
A menu of database files appears.

7. Select **PIEZOMETER.** Press **ENTER**

8. Press **LEFT OR RIGHT ARROW KEY** to exit database file menu.
A menu of relational operators appears.

9. Select **= EQUAL TO.** press **ENTER**

10. DBASE asks **ENTER A CHARACTER STRING**

11. Type **"A6".** press **ENTER**

12. Select **COMBINE WITH .AND.**

13. Select **DATE** Press **ENTER**

14. Press **LEFT OR RIGHT ARROW KEY** to exit database file menu.
A menu of relational operators appears.

15. Select **<= LESS THAN OR EQUAL TO.** press **ENTER**

16. DBASE asks **ENTER A CHARACTER STRING**

17. Type **08/30/88.** press **ENTER**

18. Select **NO MORE CONDITIONS.**
The action line displays **COMMAND: LOCATE FOR PIEZOMETER = "A6" .AND. DATE <=CTOD('08/30/88')**

19. Press **RIGHT OR LEFT KEY** to return to submenu.

20. Select **EXECUTE THE COMMAND.**

21. Press any key to continue.

22. Repeat the above steps for **DATE = 08/01/88.**

COPYING SELECTED FIELDS

1. Select **SET UP** Menu.

2. Select **SWLASL**. press **ENTER**

3. Select **ORGANIZE** Menu. press **ENTER**

4. Select **COPY** Press **ENTER**

5. Select drive **A:** press **ENTER.**

6. Dbase asks: **ENTER THE NAME OF THE FILE:(8 CHARACTERS MAXIMUM)**

7. Type **W0090S8A.DBF** press **ENTER**
The search/scope menu appears.

8. Select **CONSTRUCT A FIELD LIST.** press **ENTER**

9. Select **LATITUDE, LONGITUDE, BLANK1, DATE, BLANK2, PIEZOMETER, SWLASL**

10. Exit submenu by pressing **LEFT OR RIGHT ARROW KEY**

11. Select **BUILD A SEARCH CONDITION**

12. Select **DATE**

13. Press **LEFT OR RIGHT ARROW KEY** to exit database file menu.
A menu of relational operators appears.

14. Select = **EQUAL TO.** press **ENTER**

15. DBASE asks **ENTER A CHARACTER STRING**

16. Type **09/05/88.** press **ENTER**

17. Select **COMBINE WITH .AND.**

18. Select **TYPE**

19. Press **LEFT OR RIGHT ARROW KEY** to exit database file menu.
A menu of relational operators appears.

20. Select = **EQUAL TO.** press **ENTER**

21. DBASE asks **ENTER A CHARACTER STRING**

22. Type **0.** press **ENTER**

23. Select **COMBINE WITH .AND.**

24. Select **FIELD**

25. Press **LEFT OR RIGHT ARROW KEY** to exit database file menu.
A menu of relational operators appears.

26. Select = **EQUAL TO**. press **ENTER**

27. DBASE asks **ENTER A CHARACTER STRING**

28. Type **A**. press **ENTER**

29. Press **LEFT OR RIGHT ARROW KEY** to exit database file menu.
A menu of relational operators appears.

30. Select **NO MORE CONDITIONS**.
The action line displays **COMMAND: COPY TO V009058A FIELDS LATITUDE, LONGITUDE, BLANK1, DATE, BLANK2, PIEZOMETER, SWLASL FOR DATE =CTOD('09/05/88') .AND. TYPE ='O' .AND. FIELD ='A'**

31. Press **RIGHT OR LEFT KEY** to return to submenu.

32. Select **EXECUTE THE COMMAND**.

33. Press any key to continue.

V = Water
O = Overburden
09 = Month
05 = Day
8 = 1988
A = A Field

COPYING A DATABASE FILE TO A FLAT ASCII FILE

1. Select **SET UP** Menu. press **ENTER**

2. Select the **Database file** option.

3. A drive selection **submenu** appears.

4. Press down arrow key to Highlight drive **A:** press **ENTER**

5. Select **W0090588** press **ENTER**

6. dBASE III PLUS asks: **Is the file indexed? Y/N**

7. Type **N (No)**. press **ENTER**

8. Press **ENTER**
Pressing return twice removes the Assistant and displays the Dbase command line.

9. Type **COPY TO W0090588.DAT SDF** press **ENTER**
THIS COMMAND MEANS "COPY THE FILE 090588W0.DBF TO A STANDARD FORMAT FLAT ASCII FILE CALLED W0090588.DAT"

10. Type **ASSIST** press **ENTER**
THIS RETURNS YOU TO THE ASSISTANT MENU

11. Select **QUIT DBASE III PLUS**. press **ENTER**

12. At the DOS prompt type **LIST 090588W0.DAT** press **ENTER**
LIST allows you to view the file.

13. Type **X** to return to DOS prompt.

LESSON 4

SUMMARY OF LESSON 1/2/3.

DOS COMMANDS

CHANGE DIRECTORY
Type **CD SPANS4** press **ENTER**
Type **CD SHEFIELD** press **ENTER**
Type **CD** press **ENTER**
Type **CD SPANS4\SHEFIELD** press **ENTER**
Type **A:** press **ENTER**
Type **C:** press **ENTER**
Type **CD\SPANS4** press **ENTER**
Type **A:** press **ENTER**
Type **C:** press **ENTER**
Type **CD SHEFIELD** press **ENTER**

DIRECTORY LIST OF FILES
Type **DIR** press **ENTER**
Type **DIR/W** press **ENTER**
Type **DIR/P** press **ENTER**
Hold keys **CTRL/C** together to stop list of files

MAKE SUBDIRECTORY
Type **MD JOHN** press **ENTER**
Type **CD JOHN** press **ENTER**
Type **CD SPANS4** press **ENTER**
Type **CD SHEFIELD** press **ENTER**
Type **CD** press **ENTER**
Type **CD SPANS4\SHEFIELD** press **ENTER**
Type **A:** press **ENTER**
Type **C:** press **ENTER**
Type **CD\SPANS4** press **ENTER**
Type **A:** press **ENTER**
Type **C:** press **ENTER**
Type **CD SHEFIELD** press **ENTER**
Type **A:** press **ENTER**
Type **C:** press **ENTER**
Type **CD JOHN** press **ENTER**
Type **A:** press **ENTER**
Type **C:** press **ENTER**

COPY FROM SUBDIRECTORY SPANS4\SHEFIELD ALL DATABASE FILES (*.DBF) INTO SUBDIRECTORY SPANS4\SHEFIELD\JOHN
Type **COPY C:\SPANS4\SHEFIELD*.DBF C:\SPANS4\SHEFIELD\JOHN**

COPY ALL FILES FROM SUBDIRECTORY INTO FLOPPY DISK
Type **A:** press **ENTER**
Type **COPY C:\SPANS4\SHEFIELD\JOHN*.* A:** press **ENTER**
Type **COPY C:\SPANS4\SHEFIELD\JOHN*.*** press **ENTER**
Type **C:** press **ENTER**
Type **COPY C:\SPANS4\SHEFIELD\JOHN*.* A:** press **ENTER**
TYPE **COPY *.* A:**

COPY ALL FILES FROM A: DRIVE INTO SUBDIRECTORY
Type **COPY A:*.* C:\SPANS4\SHEFIELD\JOHN** press **ENTER**
Type **COPY A:*.*** press **ENTER**
Type **A:** press **ENTER**
Type **COPY A:*.* C:\SPANS4\SHEFIELD\JOHN** press **ENTER**
Type **COPY *.* C:\SPANS4\SHEFIELD\JOHN** press **ENTER**

ERASE ALL FILES ON FLOPPY DISK
Type **ERASE A:*.*** press **ENTER**

COPY ALL FILES FROM SUBDIRECTORY INTO FLOPPY DISK
Type **A:** press **ENTER**
Type **COPY C:\SPANS4\SHEFIELD\JOHN*.* A:** press **ENTER**
Type **COPY C:\SPANS4\SHEFIELD\JOHN*.*** press **ENTER**
Type **C:** press **ENTER**
Type **COPY C:\SPANS4\SHEFIELD\JOHN*.* A:** press **ENTER**
TYPE **COPY *.* A:**

REMOVE SUBDIRECTORY
1. Type **ERASE *.*** press **ENTER**
2. Type **CD\SPANS4\SHEFIELD** press **ENTER**
3. Type **RD JOHN** press **ENTER**

Type **LIST 090588W0.DAT** press **ENTER**
Type **X**
Type **DBASE**

DBASE COMMANDS

CREATING DATABASE FILE
ADDING RECORDS TO DATABASE FILE
RETRIEVE/DISPLAY/PRINT DATABASE FILE
COPYING DATABASE FILES
QUITING DBASE
SELECTING A DATABASE FILE
BROWSE
ADD RECORDS USING BROWSE
DELETING RECORDS
LOCATING RECORDS INDIVIDUALLY
RETRIEVING RECORDS IN GROUPS
COPYING SELECTED FIELDS

SELECTING A DATABASE FILE
1. Select **SET UP** Menu.
2. Select **DATABASE FILE.** press **ENTER**
3. Select the drive where the file is located. press **ENTER**
4. Select file. press **ENTER**

BROWSE
1. Follow steps for selecting a database file.
2. Select **UPDATE** Menu.
3. Select **BROWSE.** press **ENTER**
4. **F1 HELP** displays editing menu.
5. **F10** displays **BROWSE MENU BAR**

ADD RECORDS USING BROWSE
1. Use **PGDN** OR **F10.**
2. Select **BOTTOM.** press **ENTER**
3. Press **DOWN ARROW KEY.**
4. Type **Y**(yes). press **ENTER**
5. Enter new record.
6. Press **CTRL/END KEYS** to save and exit.

ESC exits without saving changes.

DELETING RECORDS
1. Mark records for deletion.
a. Select **UPDATE** Menu.
b. Select **EDIT.** press **ENTER**
c. Move cursor to record to be deleted.
d. Press **CTRL/U KEYS**
e. Press **CTRL/END KEYS** to exit **EDIT**

OR

a. Select **DELETE** Menu.
b. Select **BUILD A SEARCH CONDITION.**
c. Select fields from field submenu to be deleted.
d. Select an operator from the operator submenu.
e. Enter search value.
f. Select **NO MORE CONDITIONS.**
g. Use **LEFT OR RIGHT ARROW KEY** to exit submenu.
h. Select **EXECUTE THE COMMAND.** press **ENTER**

2. Remove the marked records.
a. Select **UPDATE** Menu.
b. Select **BROWSE** to check records marked for deletion.
c. Select **PACK**. press **ENTER**

LOCATING RECORDS INDIVIDUALLY
1. Select **POSITION** Menu.
2. Select **LOCATE**. press **ENTER**
3. Select field from field submenu.
4. Use **LEFT OR RIGHT ARROW KEY** to exit submenu.
5. Select an operator from the operator submenu.
6. Use **LEFT OR RIGHT ARROW KEY** to exit submenu.
7. Enter search value.
8. Select additional fields and operators.
9. Select **NO MORE CONDITIONS**.
10. Use **LEFT OR RIGHT ARROW KEY** to exit submenu.
11. Select **EXECUTE THE COMMAND**. press **ENTER**

RETRIEVING RECORDS IN GROUPS
1. Select **RETRIEVE** Menu.
2. Select **LIST**. press **ENTER**
3. Select **CONSTRUCT A FIELD LIST**. press **ENTER**
4. Select field from field submenu.
5. Use **LEFT OR RIGHT ARROW KEY** to exit submenu.
6. Select an operator from the operator submenu.
7. Use **LEFT OR RIGHT ARROW KEY** to exit submenu.
8. Enter search value.
9. Select additional fields and operators.
10. Select **NO MORE CONDITIONS**.
11. Use **LEFT OR RIGHT ARROW KEY** to exit submenu.
12. Select **EXECUTE THE COMMAND**. press **ENTER**

COPYING SELECTED FIELDS
1. Select **ORGANIZE** Menu.
2. Enter name of the new file.
3. Select **CONSTRUCT A FIELD SUBMENU**. press **ENTER**
4. Select field or fields from field submenu.
5. Use **LEFT OR RIGHT ARROW KEY** to exit submenu.
6. Select **BUILD A SEARCH CONDITION** if desired.
7. Create search condition as described above.
8. Select **EXECUTE THE COMMAND**. press **ENTER**

COPYING A DATABASE FILE TO A FLAT ASCII FILE
1. Select **SET UP** Menu.
2. Select **Database file**. press **ENTER**
3. Select drive. press **ENTER**
4. Select **FILE** press **ENTER**
5. Press **ENTER**
Pressing return twice removes the Assistant and displays the Dbase command line.
6. Type **COPY TO FILE.DAT SDF** press **ENTER**
THIS COMMAND MEANS "COPY THE FILE TO A STANDARD FORMAT FLAT ASCII FILE CALLED FILE.DAT"

7. Type **ASSIST** press **ENTER**
THIS RETURNS YOU TO THE ASSISTANT MENU
8. Select **QUIT DBASE III PLUS.** press **ENTER**
9. At the DOS prompt type **LIST FILE.DAT** press **ENTER**
LIST allows you to view the file.
10. Type **X** to return to DOS prompt.

COPYING REPETITIOUS FIELD DATA

1. Select **UPDATE** Menu.
2. Select **REPLACE**. press **ENTER**
3. Select field **DATE** from field submenu.
4. Use **LEFT OR RIGHT ARROW KEY** to exit submenu.
5. Type **(/ /)**. press **ENTER**
6. Select field **DATE** from field submenu.
7. Use **LEFT OR RIGHT ARROW KEY** to exit submenu.
8. Type **(12/12/12)**. press **ENTER**
9. Select **EXECUTE THE COMMAND**. press **ENTER**
10. **Press ENTER**
11. **Press ESC**
12. Use **UP ARROW KEY** until the message **REPLACE DATE WITH CTOD (' / / '); DATE WITH CTOD ('12/12/12')** appears.
13. **Press INSERT**
14. After the word **REPLACE** type **ALL**.
15. **REPLACE ALL DATE WITH CTOD (' / / '); DATE WITH CTOD ('12/12/12'). Press ENTER**
16. Type **ASSIST** to return to menu.

LESSON 5

SUMMARY OF LESSON 1/2/3/4.

DOS COMMANDS
CHANGE DIRECTORY
Type CD SPANS4 press ENTER
Type CD SHEFIELD press ENTER
Type CD\ press ENTER
Type CD SPANS4\SHEFIELD press ENTER
Type A: press ENTER
Type C: press ENTER
Type CD\SPANS4 press ENTER
Type A: press ENTER
Type C: press ENTER
Type CD SHEFIELD press ENTER

DIRECTORY LIST OF FILES
Type DIR press ENTER
Type DIR/W press ENTER
Type DIR/P press ENTER
Hold keys CTRL/C together to stop list of files

MAKE SUBDIRECTORY
Type MD JOHN press ENTER
Type CD JOHN press ENTER
Type CD SPANS4 press ENTER
Type CD SHEFIELD press ENTER
Type CD\ press ENTER
Type CD SPANS4\SHEFIELD press ENTER
Type A: press ENTER
Type C: press ENTER
Type CD\SPANS4 press ENTER
Type A: press ENTER
Type C: press ENTER
Type CD SHEFIELD press ENTER
Type A: press ENTER
Type C: press ENTER
Type CD JOHN press ENTER
Type A: press ENTER
Type C: press ENTER

COPY FROM SUBDIRECTORY SPANS4\SHEFIELD ALL DATABASE FILES (*.DBF) INTO
SUBDIRECTORY SPANS4\SHEFIELD\JOHN
Type COPY C:\SPANS4\SHEFIELD*.DBF C:\SPANS4\SHEFIELD\JOHN

COPY ALL FILES FROM SUBDIRECTORY INTO FLOPPY DISK
Type A: press ENTER
Type COPY C:\SPANS4\SHEFIELD\JOHN*.* A: press ENTER
Type COPY C:\SPANS4\SHEFIELD\JOHN*.* press ENTER
Type C: press ENTER
Type COPY C:\SPANS4\SHEFIELD\JOHN*.* A: press ENTER
TYPE COPY *.* A:

COPY ALL FILES FROM A: DRIVE INTO SUBDIRECTORY
Type **COPY A:*.* C:\SPANS4\SHEFIELD\JOHN** press **ENTER**
Type **COPY A:*.*** press **ENTER**
Type **A:** press **ENTER**
Type **COPY A:*.* C:\SPANS4\SHEFIELD\JOHN** press **ENTER**
Type **COPY *.* C:\SPANS4\SHEFIELD\JOHN** press **ENTER**

ERASE ALL FILES ON FLOPPY DISK
Type **ERASE A:*.*** press **ENTER**

COPY ALL FILES FROM SUBDIRECTORY INTO FLOPPY DISK
Type **A:** press **ENTER**
Type **COPY C:\SPANS4\SHEFIELD\JOHN*.* A:** press **ENTER**
Type **COPY C:\SPANS4\SHEFIELD\JOHN*.*** press **ENTER**
Type **C:** press **ENTER**
Type **COPY C:\SPANS4\SHEFIELD\JOHN*.* A:** press **ENTER**
TYPE **COPY *.* A:**

REMOVE SUBDIRECTORY
1. Type **ERASE *.*** press **ENTER**
2. Type **CD\SPANS4\SHEFIELD** press **ENTER**
3. Type **RD JOHN** press **ENTER**

DBASE COMMANDS

CREATING DATABASE FILE
ADDING RECORDS TO DATABASE FILE
RETRIEVE/DISPLAY/PRINT DATABASE FILE
COPYING DATABASE FILES
QUITING DBASE
SELECTING A DATABASE FILE
BROWSE
ADD RECORDS USING BROWSE
DELETING RECORDS
LOCATING RECORDS INDIVIDUALLY
RETRIEVING RECORDS IN GROUPS
COPYING SELECTED FIELDS

COPYING REPETITIOUS FIELD DATA
1. Select **UPDATE** Menu.
2. Select **REPLACE.** press **ENTER**
3. Select field **DATE** from field submenu.
4. Use **LEFT OR RIGHT ARROW KEY** to exit submenu.
5. Select an operator from the operator submenu.
6. Use **LEFT OR RIGHT ARROW KEY** to exit submenu.
7. Enter search value.
8. Use **LEFT OR RIGHT ARROW KEY** to exit submenu.
9. Select **EXECUTE THE COMMAND.** press **ENTER**

STEP BY STEP INSTRUCTIONS ON RETRIEVING/SAVING AND BACKING UP PIEZOMETER WATER LEVEL DATA FOR SHEFFIELD FARM FROM DBASE III PLUS

The Olivetti Personal Computer M380/C has the power button in the front lower right hand corner.

PUSH BUTTON

The operating system is stored on the hard disk, and will be accessed immediately, if there isn't a floppy disk in the computer.

C:\ will appear on the screen.

Type **CD SPANS4\SHEFIELD**. Press **ENTER**

Type **DBASE** (This takes us to the dBASE program and files in SPANS4\SHEFIELD SUBDIRECTORY)

Press **ENTER**

STEP 1: SELECT DATABASE FILE

1. Select **Set Up** Menu, and note the highlight on the **Database file** option.
2. Press **ENTER** to select the **Database file** option.
3. A drive selection submenu appears.
4. Press down arrow key to Highlight drive C:.
5. Press **ENTER**.
6. Select **WATLEVEL.DBF**
7. Press **ENTER**
8. dBASE III PLUS asks: **Is the file indexed? Y/N**
9. Type **N (No)**.

STEP 2: LOCATING RECORDS INDIVIDUALLY

1. Select **POSITION** Menu.
2. Select **LOCATE**. Press **ENTER**.
   A scope/search menu appears.
3. Select **BUILD A SEARCH CONDITION**. Press **ENTER**.
   A menu of database files appears.
4. Select **DATE**. Press **ENTER**.
5. Press **LEFT OR RIGHT ARROW KEY** to exit database file menu.
   A menu of relational operators appears.

6. Select = **EQUAL TO.** Press **ENTER.**

7. **DBASE** asks **ENTER A CHARACTER STRING**

8. Type (LAST DATE DATA WAS ENTERED) 03/31/90. Press **ENTER**

9. Select **NO MORE CONDITIONS.**
The action line displays **COMMAND: LOCATE FOR DATE = CTOD('03/31/90')**

10. Select **EXECUTE THE COMMAND.**

Turn on computer.

Type **CD SPANS4\SHEFIELD.**

Press **ENTER** key.

Type **SPANS.**

Tydac Logo Appears. Press **ENTER.**

STEP BY STEP INSTRUCTIONS FOR SETTING UP A UNIVERSE

1. Select **C:\SPANS4\SHEFIELD- SHEFFIELD FARM STUDY UNIVERSE**
2. Press **ENTER.**
3. Select **SET UP UNIVERSE** with arrow keys.
4. Select **CREATE DIR** with arrow keys.
   (Notice command line at top of screen.)
   "Creates a DOS directory for a new Universe S100".
   S100 is reference number in **REFERENCE** manual.
5. Press **ENTER.**

Path name for Universe:

4. Type: **"C:\SPANS4\SHEFIELD\YOUR NAME"** (or any directory name of 8 characters or less)
5. Press **ENTER.**

Title of Universe:

6. Type: **SPANS (YOUR NAME) PRACTICE UNIVERSE** (or any title of 40 characters or less).
7. Press **F10** key.
8. Select **QUIT** with arrow keys.
9. Select **SYSTEM** with arrow keys.
   (Command line says **EXITS THE SPANS PROGRAM**)
10. Press **ENTER.**

NOTE: Always enter SPANS from your subdirectory
Type **SPANS**.
As **SPANS** generates a lot of files, and files are usually deleted, the possibility of file fragmentation can occur.

11. Press **ENTER**.
Press **F4**key.
Select **DOS - (Return from DOS by typing 'exit')**
Press **ENTER**.
Type **DIR/P**.
You will see 6 new files created:

SPANS.DAT
SPANS.DBD
SPANS.KEY
VISTA.TAP
VISTA.LOG
RGB.DAT

These files link your hard drive directory to your SPANS universe directory.
ALL files, maps, etc. created in SPANS will be linked this way. This is why it is important to enter SPANS from your directory.
Type **EXIT**.

NOTE: See **TRAINING** manual pg. T1-1 for more details.
See **REFERENCE** manual pg. S100.

STEP BY STEP INSTRUCTIONS FOR ESTABLISHING THE PROJECTION

1. Select the universe **C:\SPANS4\SHEFIELD\(YOUR NAME)** that you have created.

2. Select **SET UP UNIVERSE.**

3. Select **EST PROTECTION.**

4. Select **FROM SCREEN.**

5. Press **ENTER.**

6. Highlight: Select from **MASTER** file.

7. Press **ENTER.**

8. Highlight: 3 (UTM) Universal Transverse Mercator.

9. Press **ENTER.**

10. Type: **20**, which is the zone number for the SPANS Sheffield Data Base. This number is obtained from the 1:50,000 topographic map 21H/1 Wolfville, Nova Scotia, in the box called Grid Zone Designation.

11. Press **F10.**

Projection Title:

12. Type a title for this projection such as **"YOUR NAME UTM ZONE 20".**

13. Press **F10.**
    READY will appear on the lower left side of screen.

14. Try this procedure (steps 5 to 8) again, but this time choose the Active File.

    Using the **PG DN** key, go to the bottom of the active file.

    The projection you defined from the master file should be there.

    Press **ESC** key since you have already saved this projection.

    Press **F4** key.

    Select **DOS - (Return from DOS by typing 'exit')**

    Press **ENTER.**

    Type **DIR/P**
    A new file **CURPARAM.DAT** is created.
    This file provides information on the Current System Parameter.

NOTE: See **TRAINING** manual pg. T1-9 for more details.
See **REFERENCE** manual pg. S310-1.

STEP BY STEP INSTRUCTIONS FOR IMPORTING GEOGRAPHICAL DATA

VECTOR INTERFACE MODULE (See **TRAINING** manual pg. AT9-7 for more details)

In DOS, copy a vector file from another existing data base, into your newly made universe/directory.

This vector file will be used to practice setting up a universe.

Vector data is a large source of information which can be tapped from a number of sources.

There are a large number of vector formats from a number of digitizing packages and it is undesirable to redigitize information which already exists in digital format.

The module which converts other vector formats to the one adopted by SPANS is called VECMENU and is run outside of the SPANS environment.

The program will take a vector file of a certain format and create a VEC file which can be imported into SPANS.

SHEFFIELD FARM SOILS MAP

1. Insert floppy disk labelled **SHEF.E00** provided by Agriculture Canada, check the data for cleanliness, happy faces, spades, hearts, clubs.

2. Type **A:**

3. Type **TYPE A:\SHEF.E00: MORE**

4. Press the **PGDN** key and move through the file.

5. Press **X** key to exit vieving file.

   Using the diskette provided by Agriculture Canada labelled SHEF.E00, copy the data on the disk to the **C:\SPANS4\(YOUR NAME)** directory.

6. Type **COPY A:*.***
7. Type **VECMENU**

8. Select **ARCEXPORT**
   (The file provided by Agriculture Canada is in ARCINFO format).

9. Input file: Type **SHEF.E00**
10. Output file: Type **SHEF**

    SPANS will create a SHEF.VEH header file.
    SHEF.VEC vector file
    Processing complete message appeared.

11. Press **ESC**
12. Type **DIR**

SPANS generates several files during the course of setting up a universe

13. Type **SPANS**. 3 files are generated: **XXXX.P1C**
SHEF.VEC
SHEF.VEH

As all of these points were table digitized and not referenced to any geographical coordinate, reference points were manually obtained.

At the bottom of the SHEF.E00 file, 4 tic points tell the extent of the table digitized soils map, table coordinates, May 1989(Bruce MacDonald,1989 Per Com).

14. Type **LIST SHEF.E00**

15. Press **PGDN** key until you reach the end of the file.

16. Press **PRNTSCRN** key (to obtain a copy of the data).

```
SHEFFIELD.TIC                          XX     3      3       12
IDTIC              4-1      14-1      5 0    50-1    -1      -1-1
XTIC               4-1      54-1     12 3    60-1    -1      -1-1
YTIC               4-1      94-1     12 3    60-1    -1
        LL     1   1.9708951E+00      6.6687617E+00      64°29'45.4"W/45°08'13"N
        UL     2   1.9728950E+00      1.7415829E+01
        UR     3   9.9634647E+00      1.7445808E+00      64°28'43.8"W/45°07'38"N
        LR     4   9.9594669E+00      6.7027421E+00
```

(See inkplot)

The information was table digitized from orthophoto mosaics.

The original photos were not available from which to obtain the lat/long for the TIC points.

Using the inkplot provided by Agriculture Canada, which had the TIC points, this inkplot was overlaid over the 1:5000 "Soils of Kentville and Sheffield Mills Research Farm, 1985" Map.

There are four boxes with number 1 to 4 on the inkplot, (TIC points) starting with 1 in the lover left corner clockwise to 4 in the lover right corner.

The inkplot fitted perfectly.

Noting the location of the TIC marks on the orthophoto of the "Soils Map", using a 1:10,000, 1976, 3°MTM, 21N/01-U3 Canning Map, the lat/long of the TIC points were obtained.

The lat/longs were converted to decimal degrees for the lover left TIC and upper right TIC point, using the **SET UP UNIVERSE/SET FRAME FROM/TWO POINT** Command.

17. Select **SET UP UNIVERSE**.

18. Select **SET FRAME FROM.**

19. Select **TWO POINT.**

20. Press **ENTER**
    (Care should be taken to escape each time a lat/long is converted so as to not disrupt the established frame of the universe).

21. Type **W**

22. Press **ENTER**

23. Press **F9** key

24. Type **64**

25. Press **ENTER**

26. Type **29**

27. Press **ENTER**

28. Type **45.4**

29. Press **ENTER**

30. Press **F10** key

31. Press **ENTER**

32. Press **F9** key

33. Type **45**

34. Press **ENTER**

35. Type **08**

36. Press **ENTER**

37. Type **13**

38. Press **F10**

39. Record on paper the **DECIMAL/DEGREES** of the typed Lat/Long.

40. Press **ESC**

41. Repeat this above procedure for **64° 28′ 43.8" W**
    45° 07′ 38" N

    Enter the decimal/degree/lat/long values into the **SHEF.VEH** file (Appendix B-14) using Q (a Wordstar edit package).

42. Press **F4**

43. Select **"DOS"**

44. Press **ENTER**

    In a **SHEF.VEH** file, a projection record is generated using the projection taken from the **CURPARAM.DAT** file.

45. Type **CURRENT**.

46. Press **ENTER**

47. On paper record the projection string number 3 7 -63.000000 0 0.9996 500000 0
48. Type **Q SHEF.VEH** Press **ENTER**

49. Type 3 7-63.000000 0 0.9996 500000 0 (the projection string number) at the question mark. Delete question mark.

    Next a reference record is generated using the upper left and lower right values of the TIC points.

50. Type **Reference 2 2.**

51. Press **ENTER**

52. **Type 1 1.9728950E+00 1.7415829E+01 4 -64.49594 45.13694**

53. **Press ENTER.**

54. **Type 1 9.9594669E+00 6.7027421E+00 4 -64.47883 45.12722**

55. Press **CTRL** and **K** and **X** keys together to save file, and exits **Q** (edit).

56. Type **EXIT** to return to **SPANS**

57. Select **(SET UNIVERSE FRAME FROM VECTOR).**

58. Press **F10.**
    A map of Sheffield Farm appears in white lines surrounded by a green box.

59. Press **F4.**

60. Select **DOS.**

61. Type **DIR.** Two new files appear at the bottom of the directory list:
    XXX.VEH
    XXX.RND

NOTE: See **TRAINING** manual pg. 1-4, T 9-7 for more details.
See **REFERENCE** manual pg. 12-1 to 12-19, Appendix B

STEP BY STEP INSTRUCTIONS FOR SETTING THE FRAME

1. In the **C:\SPANS 4\YOUR NAME UNIVERSE**, select **SET UP UNIVERSE/**

2. Select **SET FRAME FROM.**

3. Select **VECTORS.**

4. Press **ENTER.**

File Name:

5. Press **F2.**
   A list of vector files is displayed.

6. Select **SHEF.**

7. Press **ENTER.**

8. Press **F10.**
   A message processing arc / appears on the monochrome screen.

   NOTE: The file SHEF.VEC will be displayed along with latitude and longitude reference lines.

9. The frame can be enlarged using the **PG UP** key and reduced with **PG DN.**
   Move the frame around using the arrow keys.
   The extra space to the right allows for placing legend.

   The **F2** key provides a report to the screen summarizing the actual dimensions of the smallest quad (in meters) at each quad level.

   Pressing **F2** again will bring you back to the help menu.

NOTE: VERY IMPORTANT

10. When the frame is situated to your liking use the **ESC** key to save this set up in your **CURPARAM.DAT** FILE.
    CURPARAM.DAT is an important file.

    Once the universe frame (window id 00) is set, it should never be changed.

11. Type **COPY CURPARAM.DAT CURPARAM.BAK.**
    If the universe becomes corrupt, the **CURPARAM.DAT** back-up file should be used.

12. Press **F4** to access DOS.
    Type **"CURRENT"** to display the geographical parameters you have defined.
    Type **"EXIT"** to return to SPANS.

13. Press **ENTER.**

14. Press **F2** key.

15. Select 2-upper right.

16. Press **ENTER**.

See **TRAINING** manual pg. T1-11 for more details.
See **REFERENCE** manual pg. S410.

STEP BY STEP INSTRUCTIONS FOR CONVERTING ARCHIVE VECTOR FILES TO A SPANS INTERNAL FILE.

1. Select **TRANSLATE-BUILD.**
2. Select **ENTITY TO INTERNAL.**
3. Select **VECTORS.**
4. PRESS **ENTER**
5. Archive File ID: TYPE **SHEF.VEC**
6. Vector File ID: TYPE **SHEF**
   SHEF. TOP AND SHEF.VTX and SHEF.PNT files are created
   .TOP contains topological information
   .VTX contains coordinates of vertices
   .PNT contains points of information related to polygon
7. Quad Level: Type 10
8. Press **F10**
   (The outline of each shape in white is displayed on the graphics monitor).
9. Select **QUIT.**
10. Select **SYSTEM.**
11. Press **ENTER.**

NOTE: See **TRAINING Manual** pg T2-8 for more details.
See **REFERENCE Manual** pg T200

STEP BY STEP INSTRUCTIONS FOR BUILDING POLYGONS FROM ARCS.

C:\SPANS4\SHEFIELD(YOUR NAME) >
1. Type **POLIG SHEF.**

146 Arcs in File
51 Polys in File (= number of areas in **SHEF.VEH**).
File Shef.Top - arc based information
- topologically linked already.

The vector lines of the polygon are displayed on the screen.
2. Type **DIR**
3. Press **ENTER**
4. Type **SPANS**
5. Press **ENTER**

NOTE: See **TRAINING manual** pg. T2-20.
See **REFERENCE manual** pg. 14-1.

STEP BY STEP INSTRUCTIONS FOR CONVERTING SPANS POLYGONS FILES INTO QUADTREE FORMAT

1. Select **TRANSLATE-BUILD.**

2. Select **ENTITY TO QUAD.**

3. Select **POLYGONS.**

4. Press **ENTER.**

5. Map ID: TYPE **SHEF.** Press **ENTER**

6. Quad Level: Type 10

7. Press F10
   The map is displayed on the colour monitor and the polygons are built from the arc-node data.
   The map is created from lover left to upper right.

NOTE: Different colours were assigned to the same soil series, and different soils.
The EGA is good for only 14 colours.
There are 48 classes in file, therefore several soils of different classes were coloured the same.

NOTE: See **TRAINING** manual pg. T2-1 to T2-36 for more details
See **REFERENCE** manual pg. T440-1.

STEP BY STEP INSTRUCTIONS TO CREATE A BASEMAP

After the first quadtree map defining the study area universe is made, a basemap is required for working with new data in SPANS. If this map is not generated, all future maps generated for the area analysis will not be fully represented by all classes.

1. Select **OVERLAYS**

2. Select **RECLASS.**

3. Select **BUILD QUADTREES.**

4. Press **ENTER.**

5. Map ID: Type **SHEF**

6. New Map ID: Type **BASEMAP**

7. Window ID: **OO**

8. Basemap Cut: **No** (areas outside of basemap are not excluded).

9. Window Cut: **No** (areas outside of window are not excluded).

10. Reclassification Scheme From: **Screen**
The maximum class number in the source map is 48.
Specify the ranges for reclassification.

Low value	High value	New Value
1	48	1

The new value 1 represents one class.
The **BASEMAP** generated will be one colour.

11. Press **F10**

12. Filename: Basemap.RCL

13. Old Class Column: 1

14. New Class Column 2.

15. Press **F4**

16. Select **DOS**

17. Type Q **BASEMAP.RCL.** Press **ENTER.**

18. Press **F10**

NOTE: See **TRAINING** manual pg T6-5 to T6-9, T6-19 for more details
See **REFERENCE** manual pg. 0130-1.

STEP BY STEP INSTRUCTIONS TO MAKE A BLANK TEMPLATE

To classify the base map to polygons with 13 classes (maximum number of classes based on the colour palette is 15), a copy of the SHEF.E00 file was ran off to see the number of classes (48 in total) to be reclassified. A point file showing x and y coordinates, class # and polygon name was provided in the SHEF.E00 file.

1. Select **OVERLAYS**
2. Select **RECLASS**
3. Select **TEMPLATE**
4. Press **ENTER**
5. File Name: Type **SHEF1.RCL**
6. Map Id: Press **F2**
7. Select **SHEF**
8. Press **F10**
9. Press **F4**
10. Select **DOS**. Press **ENTER**.
11. Type **Q SHEF1.RCL** Q is an editor package.

A blank template appears on the monochrome monitor.

NOTE: See **REFERENCE** manual pg. 0110-1 for more details.
See **TRAINING** manual T6-5 to T6-9, T6-19.

```
:shef1 -SHEFFIELD FARM SOILS MAP           :
:------------------------------------------
:         :    0    0
:         :    1    0
:         :    2    0
:         :    3    0
:         :    4    0
:         :    5    0
:         :    6    0
:         :    7    0
:         :    8    0
:         :    9    0
:         :   10    0
:         :   11    0
:         :   12    0
:         :   13    0
:         :   14    0
:         :   15    0
:         :   16    0
:         :   17    0
:         :   18    0
:         :   19    0
:         :   20    0
:         :   21    0
:         :   22    0
:         :   23    0
:         :   24    0
:         :   25    0
:         :   26    0
:         :   27    0
:         :   28    0
:         :   29    0
:         :   30    0
:         :   31    0
:         :   32    0
:         :   33    0
:         :   34    0
:         :   35    0
:         :   36    0
:         :   37    0
:         :   38    0
:         :   39    0
:         :   40    0
:         :   41    0
:         :   42    0
:         :   43    0
:         :   44    0
:         :   45    0
:         :   46    0
:         :   47    0
:         :   48    0
DDD7
```

Example of a blank input template SHEF1.RCL created by SPANS.

Column 1 is a list for legend names (column should be blank).
Column 2 is the class number (column should have numbers ranging from 0 to 48).
Column 3 is the color code for the class number (all zeros).

13. Using the point file in the SHEF.E00 file, the soil class numbers were assigned a colour number for the respective soil type.

    Following the same step by step instructions to create a base map, a new reclassified soil map, from 48 classes to 13 classes is made:

14. Press **CTRL/K/X** keys together to save file.

15. Select **OVERLAYS**

16. Select **RECLASS**

17. Select **BUILD QUADTREES**

18. Map Id: Type **SHEF**

19. Nev Map Id: Type **SHEF1**

20. Windov Id: **OO**

21. Base Map Cut: **No**

22. Windov Cut: **No**

Reclassification Scheme From: Reclassification File (.rcl)

23. File name : Press **F2**

24. Select **SHEF1.RCL**

25. Old Class Column: 1

26. Nev Class Column: 2

27. Press **F10**

Soil type	Colour #
SME	1
KTV	2
ER	3
CNV2	4
WOV	5
KGP	6
MLL	7
Building Area	10
CNV1	9
CGN	8
CNG	11
ACA	12
ZZ	13

```
:shef1 -SHEFFIELD FARM SOILS MAP          :
:-----------------------------------------
:         :    0    0
:         :    1    0
:smed     :    2    1
:KTVC     :    3    2
:SME      :    4    1
:ER       :    5    3
:ER       :    6    3
:CNW2C    :    7    4
:KTVC     :    8    2
:voVd     :    9    5
:KTVC     :   10    2
:voVc     :   11    5
:cnv2c    :   12    4
:KTVC     :   13    2
:cnv2d    :   14    4
:smeb     :   15    6
:cnv2d    :   16    4
:smeb     :   17    1
:cnv2d    :   18    4
:cnv2b    :   19    4
:mLLC     :   20    7
:BA       :   21   10
:SMEC     :   22    1
:SMEC     :   23    1
:KTVC     :   24    2
:KGPC     :   25    6
:CNW1C    :   26    9
:SMEC     :   27    1
:SMED     :   28    1
:CNW2C    :   29    4
:CNW1C    :   30    9
:KTVC     :   31    2
:CGNb     :   32    8
:MLLC     :   33    7
:MLLC     :   34    7
:CNW2D    :   35    4
:KTVb     :   36    2
:CNW2B    :   37    4
:CNW2e    :   38    4
:MLLC     :   39    7
:KTVb     :   40    2
:ER       :   41    3
:KGPb     :   42    6
:CNW2c    :   43    4
:CNGb     :   44   11
:KGPb     :   45    6
:ACAb     :   46   12
:ER       :   47    3
:ZZ Pond  :   48   13
DDD7
```

Example of input template SHEF1.RC1 which is filled in with desired allocation scheme.

STEP BY STEP INSTRUCTIONS FOR DISPLAYING COORDINATES

1. Select **DISPLAY**

2. Select **ANNOTATIONS**

3. Select **LAT, LON COORDINATES**. Press **ENTER**.

4. Press **F10**

Coordinates are displayed.

See **TRAINING** manual pg T4-18 for more details.
See **REFERENCE** manual pg D240-1 for more details.

STEP BY STEP INSTRUCTIONS FOR PRODUCING MAP TITLES

1. Select **UNIVERSE LIB**

2. Select **ADD, MODIFY ITEM**

3. Select **TITLES**. Press **ENTER**.

Source Id:

4. Type **SHEF**. Press **ENTER**.

Delete Map Information:

5. Type "n".

New Id:

6. Type **SHEF**. Press **ENTER**.

Short Title:

7. Type **SHEF** (or keep). Press **ENTER**.

Legend Id:

8. Type **SHEF** (or any legend ID up to 8 characters). Press **ENTER**.

Long Map Title:

9. Type **SOIL TYPES** (or any long title up to 30 characters).

10. Press **F10** to save information.

(Information for this ID is saved) should appear on message line.

See **TRAINING** manual pg T3-7 for more details.
See **REFERENCE** manual pg U310-1 for more details.

STEP BY STEP INSTRUCTIONS FOR PRODUCING MAP LEGENDS

1. Select **UNIVERSE LIB**
2. Select **ADD, MODIFY ITEMS**
3. Select **LEGENDS**
4. Select **CREATE NEW**
5. Select **FROM SOURCE ID.** Press **ENTER.**
6. An Empty Table Appears

CLASS TITLE	COLOR	LONG CLASS TITLE	SHORT
1		1	
2		2	

New Legend Id:

7. Type **SHEF**
8. Type d (default palette). Press **ENTER.**
9. Type **SOMERSET** for class 1. Press **ENTER.**
10. Type **KENTVILLE** for class 2.
11. Type **ERODED AREAS** for class 3.
12. Type **CORNWALLIS** for class 4.
13. Type **WOODVILLE** for class 5.
14. Type **KINGSPORT** for class 6.
15. Type **MILLAR** for class 7.
16. Type **CHEGOGGIN** for class 8.
17. Type **CORNWALLIS ONE** for class 9.
18. Type **BUILDING AREA** for class 10.

Ten legend items at a time can only be

Press **F10**. Press **ESC**.

Press **F10**

19. Type **CANNING** for class 11.

20. Type **ACADIA** for class 12.

21. Type **POND** for class 13.

13. Press **F10** to complete legend entries.

"**Information for this ID is saved**" should appear on message line.

See **TRAINING** manual pg T3-9 for more details.

See **REFERENCE** manual pg U322 for more details.

STEP BY STEP INSTRUCTIONS FOR DISPLAYING TITLES

1. Select **DISPLAY**
2. Select **ANNOTATIONS**
3. Select **TITLE**. Press **ENTER**
4. Title: **SOIL TYPES** should appear. Press **ENTER**.
5. Location: Press **F2**
6. Select **UPPER RIGHT**. Press **ENTER**.
7. Text Height: Type 20. Press **ENTER**.
8. Width: Type 20. Press **ENTER**.
9. Color: Press **ENTER**.
10. Black Background: **Y**. Press **ENTER**.
11. FONT: Type 4. Press **ENTER**.
12. Press **F10**.
13. Press **CTRL/LEFT ARROW** keys together to position title.
14. Press **ENTER**.

See **TRAINING** manual pg T4-20 for more details.

See **REFERENCE** manual pg D210 for more details.

STEP BY STEP INSTRUCTIONS FOR DISPLAYING A MAP LEGEND

1. Select **DISPLAY**
2. Select **ANNOTATIONS**
3. Select **LEGEND**. Press **ENTER**.
4. Location: Press **F2**
5. Select **UPPER RIGHT**. Press **ENTER**.
6. Text Height: Type **20**. Press **ENTER**.
7. Width: Type **20**. Press **ENTER**.
8. Color: Press **ENTER**.
9. Black Background: **Y**. Press **ENTER**.
10. FONT: Type **4**. Press **ENTER**.
11. Press **F10**.
12. Press **CTRL/LEFT ARROW** keys together to position LEGEND.
13. Press **ENTER**.

See **TRAINING** manual pg T4-21 for more details.

See **REFERENCE** manual pg D220 for more details.

STEP BY STEP INSTRUCTIONS FOR DISPLAYING REFERENCE LINES

1. Select **DISPLAY**
2. Select **ENTITIES**
3. Select **VECTORS**. Press **ENTER**
4. LINE FILE ID. Type **SHEF**. Press **ENTER**.
5. Line Color. Press **ENTER**.
6. Line Width Numbers. Press **ENTER**.
7. Line Style. Press **F2** key.
8. Select **SOLID**. Press **ENTER**.
9. Class Number. Press **ENTER**.
10. Press **F10** key.

Reference lines are displayed.
See **TRAINING** manual pg T4-17.
See **REFERENCE** manual pg. D120-1.

STEP BY STEP INSTRUCTIONS FOR DISPLAYING FRAME

1. Select **DISPLAY**
2. Select **ANNOTATIONS**
3. Select **FRAME**. Press **ENTER**.

A Frame is displayed around outside of screen.

See **TRAINING** manual pg T4-18 for more details
See **REFERENCE** manual pg D270-1 for more details

LESSON 6:

STEP BY STEP INSTRUCTIONS FOR IMPORTING POINT FILES STATIC WATER LEVEL MEASUREMENTS FROM DBASE III PLUS TO SPANS 4.0

Type **DBASE.**

COPYING SELECTED FIELDS

1. Select **SETUP** Menu.
2. Select **SWLASL.** Press **ENTER.**
3. Select **ORGANIZE** Menu. Press **ENTER.**
4. Select **COPY** Press **ENTER.**
5. Select drive **A:** press **ENTER.**
6. Dbase asks: **ENTER THE NAME OF THE FILE:** (8 CHARACTERS MAXIMUM)
7. Type **W0O9058A.DBF** press **ENTER.**
   The search/scope menu appears.
8. Select **CONSTRUCT A FIELD LIST.** press **ENTER**
9. Select **LATITUDE, LONGITUDE, BLANK1, DATE, BLANK2, PIEZOMETER, SWLASL**
10. Exit submenu by pressing **LEFT OR RIGHT ARROW KEY.**
11. Select **BUILD A SEARCH CONDITION**
12. Select **DATE**
13. Select = **EQUAL TO.** press **ENTER.**
14. DBASE asks **ENTER A CHARACTER STRING.**
15. Type **09/05/88.** press **ENTER.**
16. Select **COMBINE WITH .AND.**
17. Select **TYPE**
18. Press **LEFT OR RIGHT ARROW KEY** to exit database file menu.
    A menu of relational operators appears.
19. Select = **EQUAL TO.** press **ENTER**
20. DBASE asks **ENTER A CHARACTER STRING**
21. Type **0.** press **ENTER**
22. Select **COMBINE WITH .AND.**

22. Type 0. press **ENTER**

23. Select **COMBINE WITH .AND.**

24. Select **FIELD**

25. Press **LEFT OR RIGHT ARROW KEY** to exit database file menu.
    A menu of relational operators appears.

26. Select = **EQUAL TO.** press **ENTER**

27. DBASE asks **ENTER A CHARACTER STRING**

28. Type **A.** press **ENTER**

29. Select **NO MORE CONDITIONS.**
    The action line displays **COMMAND: COPY TO W0090588 FIELDS LATITUDE, LONGITUDE, BLANK1, DATE, BLANK2, PIEZOMETER, SWLASL FOR DATE =CTOD('09/05/88') .AND. TYPE ='0' .AND. FIELD ='A'**

30. Select **EXECUTE THE COMMAND.**

33. Press any key to continue.

COPYING A DATABASE FILE TO A FLAT ASCII FILE

1. Select **SET UP** Menu. press **ENTER**

2. Select the **Database file** option.

3. A drive selection **submenu** appears.

4. Press down arrow key to Highlight drive **A:** press **ENTER**

5. Select **W009058A** press **ENTER**

6. **dBASE III PLUS asks: Is the file indexed? Y/N**

7. Type **N (No).** press **ENTER**

8. Press **ESC** key
   Pressing **ESC** key twice removes the Assistant and displays the Dbase command line.

9. Type **COPY TO W009058A.DAT SDF** press **ENTER**
   THIS COMMAND MEANS "COPY THE FILE W009058A.DBF TO A STANDARD FORMAT FLAT ASCII FILE CALLED W009058A.DAT"

10. Type **ASSIST** press **ENTER.**
    THIS RETURNS YOU TO THE ASSISTANT MENU

11. Select **QUIT DBASE III PLUS.** press **ENTER**

12. At the DOS prompt type **TYPE W009058A.DAT** press **ENTER**

LIST allows you to view the file.

13. Type SPANS.

14. Select Universe.

15. Press ENTER.

STEP BY STEP INSTRUCTIONS FOR IMPORTING POINT FILES

1. Select **TRANSLATE-BUILD**
2. Select **POINTS**
3. Select **IMPORT**
4. Name of Import File: Type **W009058A.DAT**
5. Point File ID: Type **W009058A**
6. Type of Import File: Press **F2**
7. Select **2 Decimal Degrees/Lat/Lon**
8. # of Characters to be Skipped: Press **F4**
9. Select **DOS.**
10. Press **ENTER**
11. Type **Q W0090588.DAT.**
12. Press **ENTER**
13. Check the number of spaces to the first number in the decimal degrees latitude column.
14. Press **K** and **Q** keys together.
15. Type **EXIT.**
16. **Enter the number of characters to be skipped.**
17. Press **F10.**

    Points should be displayed on the screen.
18. Press **F4**
19. Select **DOS.**
20. Press **ENTER.**
21. Type **Q W009058A.PNT.**
22. Press **ENTER.**

    Notice the morton numbers in the first left column.
23. Press **K** and **Q** keys.

24. Type **EXIT**.

25. Press **ENTER**.

STEP BY STEP INSTRUCTIONS FOR PREPARING FILES FOR ANALYSIS AND MODELLING

1. Select **UNIVERSE LIB**

2. Select **ADD, MODIFY ITEM**

3. Select **CLASSIFICATION**. Press **ENTER**.

When determining classification id; write down the maximum value and minimum value for the point file being used.

ie. W009058A.DAT maximum value = 15.75
minimum value = 13.49

TRAINING manual pg. T5-7 to T5-16 provides detailed information on the different classification procedures. For this exercise you will concentrate on:

Classification Mode - Z (classification based on values in point file)

Order = ascending/or descending (your choice)

Base = z - first class is defined as greater than first specified class boundary

Spacing Type = e (equal spacing between minimum and maximum value)

Number of equal intervals = 5

Value Intervals = maximum value = 16.00
minimum value = 13.00

Press **F10** (Information for this id is saved should appear)

Press **ESC**

See **TRAINING** manual pg. T5-8 for more detail.
See **REFERENCE** manual pg. 360 for more detail.

TRANSFORMING POINT DATA

POTMAP/CONTOUR methods for converting point data into a spatial area used in SPANS.

For this exercise CONTOUR will be used to plot the groundwater flow direction in the "A Field", overburden piezometers based on the September 5, 1988 values.

STEP BY STEP INSTRUCTIONS FOR USING CONTOUR WITH A PREDEFINED CLASSIFICATION SCHEME

1. Select **MODULES**
2. Select **CONTOUR**
3. Press **F10**

4. Contouring results:
5. Type 1 height.
6. Input point file id: **W009058A.PNT**
7. Column number: (Press F4)
8. Select DOS
9. Type Q W0090588A.PNT
10. Note the column that the static water level measurement data is in. Press CTRL and K and Q together.
11. Type in column number static water level data is in.
12. Number of points to process: Type 3 (number of points in file)
13. Number of Quantities: Type 0
14. New Map ID: Type W009058A
15. Window ID: Type AW ("A" Field Window)
16. Quad Level: Type 15
17. Interpolation Method: Type L (linear)
18. Policy for Points in Minimum Quad: / use average location and Z-values
19. Basemap Cut: Type **YES**
20. Interpolate to Only Inside Convex Hull of Datapoints: Type **YES**
21. Inquire at End: Type **YES**

22. Move cross-hairs around screen to see static water level values associated for W009058A generated.

TRAINING manual pg. T10-1 to 10-42.
REFERENCE manual pg. M300-1.

GLOSSARY

DOS COMMANDS

CD..	change directory to previous directory
CD..\..	change directory to two previous directory
CD JOHN	change directory to JOHN
CHKDSK	checks the disk and reports how many files are in the directory
CHKDSK/V	(for verbose) provides detailed information about errors found
CHKDSK/F	(for fix) fixes the file allocation table and other errors found
COPY A:*.*	copy all files from the floppy disk in the A drive into the current directory
DATE	displays and lets you change the date on the system mm-dd-yy
DIR	lists any or all files in the directory
DIR/W	(for wide) gives a wide list without size and date information
DIR:MORE	lists all files a screen at a time
DIR/P	(for page) lists all files a screen at a time
ERASE A:*.*	erase all files from the floppy disk in the A drive
FORMAT	format the disk for DOS /v - Add volume label /S - Include DOS; make it bootable /Q - Quick erase all files on existing disk /TEST - Simulation; disk isn't written /1 - Single-sided /4 - 360 K disk in 1.2 Meg Drive /8 - 8 sectors per track /N:SS - Sectors per track (8, 9, 15, 18) /T:tt - Tracks (40,80). Use /N and /T together /F:ddd - Diskette size (160, 180, 320, 360, 720, 1200, 1440) /R - Reformat and rewrite every track /F - Like /R, but delete all files /Destroy - Format and erase diskette.
LIST	allows you to view the contents of the file
MD JOHN	make directory called JOHN
RD JOHN	remove directory called JOHN
RENAME	changes the name of a file on the disk
TIME	displays and lets you change the time on the system
TYPE	followed by filename displays contents of file for viewing
VER	(for version) provides information on current DOS system
TREE	displays structure of DOS directories

MISCELLANEOUS

CTRL/C	Press keys together to stop text from scrolling
ALT/CTRL/DEL	Press keys together to soft boot system

DOS ERROR MESSAGES

INVALID PARAMETER
check spelling
use a backslash

INVALID DIRECTORY
use a backslash

BAD COMMAND OR FILE NAME
use CD designation for changing directory

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EXERCISE 1

ADDING RECORDS TO A DATABASE FILE

LATITUDE	LONGITUDE	PIEZOMETER	TYPE	FIELD
45.136800	64.490600	"A1"	B	A
45.136800	64.490620	"A2"	O	A
45.136090	64.491300	"A3"	B	A
45.136100	64.491300	"A4"	O	A
45.136100	64.490400	"A5"	B	A
45.136090	64.490400	"A6"	O	A
45.131340	64.489650	"B1"	O	B
45.131330	64.489650	"B2"	B	B
45.130800	64.489510	"B3"	O	B
45.130780	64.488100	"B5"	O	B
45.130770	64.488100	"B6"	B	B
45.130690	64.482100	"C1"	O	C
45.130700	64.482130	"C2"	O	C
45.130380	64.481400	"C3"	B	C
45.130400	64.481400	"C4"	O	C
45.130100	64.481900	"C5"	O	C
45.131300	64.482500	"D1"	O	B
45.131600	64.482360	"D2"	B	D
45.131600	64.482340	"D3"	O	D
45.133500	64.480730	"SW1"	SW	
45.131540	64.483100	"SW2"	SW	
45.134450	64.484250	"SW3"	SW	
45.132300	64.480310	"SW4"	SW	
45.135750	64.491470	"SW5"	SW	
45.127400	64.480900	"SW6"	SW	
45.131200	64.479950	"SW7"	SW	
45.131600	64.482500	"SW8"	SW	
45.132550	64.482100	"SW9"	SW	

Type - O overburden
B bedrock

SW Surface water

EXERCISE 2
ADDING RECORDS TO A MODIFIED DATABASE FILE

PIEZOMETER	TOCELEVASL	CASINGAGS	ELEVTNASL	PIEZDPTH
"A1"	20.35	1.01	19.34	8.75
"A2"	20.26	0.91	19.35	7.48
"A3"	19.63	0.97	18.66	8.99
"A4"	19.84	0.97	18.87	5.97
"A5"	18.83	0.58	18.25	7.28
"A6"	18.69	0.59	18.10	7.10
"B1"	26.41	0.15	26.36	10.52
"B2"	26.85	0.67	26.18	18.17
"B3"	24.69	0.98	23.71	9.05
"B5"	19.18	0.93	18.25	8.38
"B6"	19.42	1.08	18.34	18.07
"C1"	14.41	0.84	13.57	14.87
"C2"	14.47	0.87	13.60	5.21
"C3"	15.07	0.92	14.15	23.93
"C4"	15.12	0.94	14.18	2.93
"C5"	14.18	0.14	14.04	4.42
"D1"	9.64	0.35	9.29	4.27
"D2"	11.26	1.25	10.01	10.52
"D3"	10.75	0.57	10.18	4.02